ARCH 229: Shelter Design Workshop

Nomad Work-Live Truck by Office of Mobile Design        Cortex Shelter by Cutwork

4 Units

Course Description

This studio sequence focuses on design at an occupiable scale -- from tents and pavilions to single units. Standards of architectural drawings (plans, sections, elevations, orthographic projections, etc.) will be covered. Course introduces issues of materiality, accessibility, constructability, etc. of basic shelters (ADU, refugee housing, homeless constructs, etc.). Portability, durability, pre-fab construction and self assembly are some topics that will be addressed.

Since Vitruvius, architects have sought to distill and outline key ideas and techniques for designing. In modernity, housing became the primary typology in which these ideas were explored. Beginning with Le Corbusier’s Maison Domino and his Five Points of a New Architecture, architects have sought to redefine a new way that housing can be designed and constructed. Cultural aesthetics, economic constraints, and means of construction are a few of the various aspects of reality that were considered by the modernists. Like Le Corbusier, Mies van der Rohe, and others, successful modernists considered prototypical housing at multiple scales, from the single family dwelling to multi-unit aggregations. While modernists successfully reinvented housing in many regards, in other ways their prototypes were substantially criticized in retrospect by post-modernists who argued that modernity ignored various domains of reality that are culturally required for successful architecture.

Today, the problem of housing is far more complex. Issues of sustainability in response to climate change cannot be ignored. Every aspect of housing, from material transport to sustainable systems, must be explored as part of the total design process. Further, as climate change creates natural disasters that displace people for decades, destroy arable land, reduce
fresh water supplies, and destabilize local economies, emergency housing has become a necessary complement to our existing housing stock of today.

Students will develop prototypical housing techniques that can be applied to the following applications:

Emergency Relief Shelter (approx. 250 sf)
Accessory Dwelling Unit (approx. 800 sf)

Students will develop their own points of a new architecture (written), prototypical housing techniques and components, i.e. kitchens, bathrooms, living areas, bedrooms (drawn and written), and prototypical applications in the form of an emergency relief shelter (drawn and modeled) and an accessory dwelling unit (drawn and modeled). Each student will compile their work in an 8.5"x11" portfolio that will have text, drawings, renderings, and model photographs that will serve as an architectural manifesto for your idea of a new sailing architecture.

Learning Objectives

This course will encourage students to:

— By the end of the semester, students will be able to demonstrate acquired knowledge of basics of how to design for human habitation — from the scale of an emergency relief shelter to a permanent dwelling — and how to design for the different objectives and potential uses of different kinds and scales of shelter by designing a dwelling for the final project.

— Make assessments about what might be appropriate materials for each project based on an analysis of the needs and goals of that particular project.

— Hone their ability to assess successful design by analyzing specific relevant precedents and antecedents before the beginning of each new design project. The result of this analysis will be a short case study of the project.

— Demonstrate this newly developed ability to critically assess design work by providing critique to their peers during group discussions and by iterating their own designs through a process of self-critique.

— Become familiar with the major project development steps by applying them to their own projects throughout the semester.

— Improve their presentation skills over the course of the semester, by constructing effective arguments for their design choices and creating visual presentations that support their talking points and convey their ideas for all of their projects.

Prerequisite(s):
ARCH 219: Design at the Scale of the Human Body Workshop
Co-Requisite(s):
None
Concurrent Enrollment:
None
Recommended Preparation:
None
Course Notes
[Course Notes include important information on the course that will not appear elsewhere in the syllabus. This may include the style of the course/teaching, such as flipped, case-based, project-based, etc.]

Communication
[Communication and Technology Policies differ from university policies in that they are course-specific and set by each instructor. Common course-specific policies the instructor will need to create cover communication, in-class work, late work, and technology.]

Technological Proficiency and Hardware/Software Required
Students will be required to have access to, and be proficient in, 2D and 3D drafting, modeling, and graphics software. Adobe Illustrator, Adobe Acrobat, Rhino, and Autocad are commonly used, however students may use any software they choose sufficient to collaborate and accomplish their assignment goals. Software support will not be provided in this course.

USC Technology Rental Program
If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university’s equipment rental program. To apply, please submit an USC Technology Rental Program Application.

USC Technology Support Links
Blackboard help for students
Software available to USC Campus

Required Materials
[Required Materials should be listed separately from optional materials. Clearly indicate which materials must be purchased by students and how/where they can obtain them.]

Optional Materials
[Optional Materials are not required but recommended. This section is optional and may be omitted.]

Description and Assessment of Assignments
Project 1 - Emergency Relief Shelter - 30% of total grade
Students will design an emergency relief shelter that would appropriate for a variety of uses (for refugees, for people who have lost their homes due to natural disaster, etc.) Students will study a variety of precedents and prototypes relevant to this project. Students will be asked to create a set of priorities to design for, by imagining what uses might be needed by the end user, within the small square footage. Students will create several models throughout the process — study models, scaled models, and potentially full scale chunk models showing materiality or large scale models demonstrating function and use. Students will be graded on their final design, on their Mid Review and Final Review presentations (including presentation materials and physical model), and on their iteration of the project through the semester.
Project 2 - Accessory Dwelling Unit - 40% of total grade
Student will design an Accessory Dwelling Unit of approximately 800 SF. Students will study a variety of precedents and prototypes relevant to this project. Students will then design an ADU which meets a set of goals they have created after reviewing their research and envisioning what the end user will need and want in the space. Students will create several models throughout the process — study models, scaled models, and potentially full scale chunk models showing materiality or large scale models demonstrating function and use. Students will be graded on their final design, on their Mid Review and Final Review presentations (including presentation materials and physical model), and on their iteration of the project through the semester.

Final Portfolio - 10% of total grade
Students will be required to put together a final portfolio, including presentation images, model photos, and plans/sections/axonometric drawings for both assigned projects. In some cases, students will be expected to add revised images, based on their reviews.

Studio Progress Binder:
Students are required to maintain a design process binder for this studio. It should be a three-ring binder containing 8.5”x11” sheets (or folded 11”x17”) sheets indicating your design progress. It is meant to be a thorough and well-organized record of and instrument for critical inquiry and design process. The notebook is to include (freehand and/or digitally produced) generative diagrams and design sketches, print outs of drawings and model views, notes/diagrams/sketches/mark-ups from desk crits, graphic analysis of relevant precedents, class/lecture/reading notes, as well as any other material relevant to design exploration in this course. Date and label all entries clearly and in a consistent manner. Notebooks may be collected and evaluated periodically during the semester. All entries should be annotated and dated.

Participation
Students will be required to participate in group discussions, critiques, and presentations. Continual failure to participate will result in a deduction to participation grade.

Grading Breakdown
Midterm review (30%), Final Review (40%), and Final Portfolio (10%) will contribute significantly to your final grade. The studio notebook documenting your progress will also contribute to your final grade (10%). Constructive engagement and active participation with your instructor and your studio colleagues can also count positively toward your final grade (10%).

Work will be evaluated at midterm so that you have an indication of your progress. Unsatisfactory performance warnings will be issued to students whose work does not meet minimum requirements.

A minimum grade of ‘C’ is required to continue on to the next semester in the studio sequence. Consult University policies for IN (incomplete) grades and deadlines for withdrawal (‘W’ grade). University guidelines on plagiarism pertain to original design work. Students are expected to do all of their own design and presentation work. Substantial assistance in the form of model construction and drawing preparation, or deliberate appropriation of the design work of others
will be considered non-original work and will be treated as plagiarism. See “Academic Integrity” section below for more information.

Table 1 Grading breakdown template

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Review (Project 1)</td>
<td>30%</td>
</tr>
<tr>
<td>Final Review (Project 2)</td>
<td>40%</td>
</tr>
<tr>
<td>Final Portfolio</td>
<td>10%</td>
</tr>
<tr>
<td>Studio Notebook</td>
<td>10%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Grading Scale
Course final grades will be determined using the following scale.

A  95-100  
A-  90-94  
B+  87-89  
B   83-86  
B-  80-82  
C+  77-79  
C   73-76  
C-  70-72  
D+  67-69  
D   63-66  
D-  60-62  
F   59 and below

Course-specific Policies (Assignment Submission, Grading Timeline, Late work, and Technology):

Assignment Submission:
Assignments will be submitted through Blackboard.

Grading Timeline:

Late work:
Late submission of assignments will result in a deduction of at least one letter grade. Unexcused absences on exam days can lead to a student receiving a “0” for that assignment.
Technology in the classroom:

**Blackboard**: Blackboard will be the main platform for turning in assignments and accessing resources.

**Software**: Students will be required to have access to, and be proficient in, 2D and 3D drafting, modeling, and graphics software. Adobe Illustrator, Adobe Acrobat, Rhino, and Autocad are commonly used, however students may use any software they choose sufficient to collaborate and accomplish their assignment goals. Software support will not be provided in this course.

Attendance

It is essential and required for all students to be on time and present for all studio meetings, class lectures, field trips and reviews. Lateness and absences will be recorded and can seriously affect course grades.

A maximum number of three absences are allowed without direct impact to the student’s grade.

A student’s overall semester evaluation may be lowered by up to a full letter grade for each additional absence. Excused absences must be in writing and must be approved by the studio instructor. It is always the student’s responsibility to seek the means and make up for work missed due to any type of absence.

Dates called out in the syllabus as review dates are considered examination periods. Absences on project review dates may lead to automatic failure of the assignment unless pre-approved by the instructor. Such an absence may only be due to personal illness, family emergency or religious observance.

The University recognizes the diversity of our community and the potential for conflicts involving academic activities and personal religious observation. See:

http://orl.usc.edu/religiouslife/holydays/

Classroom norms

Apart from lectures, reviews and trips, instructors will meet with their sections in studio. It is imperative to respect the quality of this unique creative environment and the work of others, during and outside of class hours, by following the guidelines of the USC School of Architecture Studio Culture agreement.

Establishing a safe space and a space of respect:

- This course, and its lectures and meetings, is a space of empathy and safety.

- This course, and its lectures and meetings, is also a space where diverse thoughts and feelings are valid and should be respected.

- This course, and its lectures and meetings, is a space to explore diverse texts, places, events, and ideas that might sometimes feel uncomfortable for us to discuss. We want this to be a supportive environment where we can explore difficult problems together.

- There is a limit to all of our knowledge (students, faculty, and CAs included). We’re all going to make mistakes, especially regarding cultures and ideas that are less familiar to
us, and that’s okay; we’re all here to learn from each other.

- We should be willing to acknowledge that there are limits to our knowledge that may express unintended biases. We should endeavor to learn from others in an effort to widen our knowledge and empathy.

- We should be respectful and patient with one another (and with ourselves) through this learning process.

Sharing of course materials outside of the learning environment
SCampus Section 11.12(B)
Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

Residential and Hybrid Streaming Model Courses
[You can include a link and statement for students to consult the latest COVID-19 testing and health protocol requirements for on campus courses. Continuously updated requirements can be found on the USC COVID-19 resource center website.]

Course evaluation
Course evaluations occur at the midterm point in the course and at the end of the course. It is important to fill out these course evaluations to give a review of the students’ experience in the class.

Course Schedule: A Weekly Breakdown

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Assignment Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction to Shelter Design</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lecture and Divide into Studio Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction to Project 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan. 10-14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Topics/Daily Activities</td>
<td>Readings and Homework</td>
<td>Assignment Dates</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------</td>
<td>-----------------------</td>
<td>--------------------</td>
</tr>
</tbody>
</table>
| **Week 2** Jan. 17-21 | Precedent Research  
Field Trip |                       | Precedent Research Due |
| **Week 3** Jan. 24-28 | Schematic Designs and Study Models  
Prepare for Mid Review - Project 1 |                       | Schematic Designs Due  
Study Models Due |
| **Week 4** Jan. 31-Feb. 4 | Mid Review — Project 1  
Present research and initial designs for feedback |                       | Mid Review — Project 1 |
| **Week 5** Feb. 7-11 | Desk Crits — Improve designs based on Mid Review feedback |                       |                    |
| **Week 6** Feb. 14-18 | Desk Crits —  
Continue to iterate designs and begin to consider issues of materiality and more detailed functionality |                       |                    |
| **Week 7** Feb. 21-25 | Desk Crits and practice presentations  
Finalize designs and begin to develop presentations — graphics, models, etc.  
Prepare for Final Review - Project 1 |                       |                    |
<p>| <strong>Week 8</strong> Feb. 28-Mar. 4 | Final Review — Project 1 |                       | Final Review — Project 1 |
| <strong>Week 9</strong> Mar. 7-11 | Lecture and Introduction to Project 2, Precedent Research |                       | Precedent Research Due |</p>
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Assignment Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 10</td>
<td>Spring Recess - No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar. 14-18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 11</td>
<td>Schematic Designs and Study Models</td>
<td></td>
<td>Schematic Designs Due</td>
</tr>
<tr>
<td>Mar. 21-25</td>
<td>Prepare for Mid Review - Project 2</td>
<td></td>
<td>Study Models Due</td>
</tr>
<tr>
<td>Week 12</td>
<td>Mid Review — Project 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar. 28-Apr. 1</td>
<td>Present research and initial designs for feedback</td>
<td></td>
<td>Mid Review — Project 2</td>
</tr>
<tr>
<td>Week 13</td>
<td>Desk Cuts — Improve designs based on Mid Review feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 4-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 14</td>
<td>Desk Cuts — Continue to iterate designs and begin to consider issues of materiality and more detailed functionality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 11-15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 15</td>
<td>Desk Cuts and practice presentations —</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr. 18-22</td>
<td>Finalize designs and begin to develop presentations — graphics, models, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 16</td>
<td>Final Review — Project 2</td>
<td></td>
<td>Final Review — Project 2</td>
</tr>
<tr>
<td>Apr. 25-29</td>
<td>Prepare for Final Review - Project 2</td>
<td>Final Date — Final Portfolio Due</td>
<td>Final Portfolio Due</td>
</tr>
<tr>
<td>FINAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample Bibliography


Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on Research and Scholarship Misconduct.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University’s educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office for Equity, Equal Opportunity, and Title IX (EEO-TIX) - (213) 740-5086 eeoitx.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

The Office of Student Accessibility Services (OSAS) - (213) 740-0776
osas.usc.edu
OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

USC Campus Support and Intervention - (213) 821-4710
campussupport.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity, Equity and Inclusion - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)
ombuds.usc.edu
A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

Occupational Therapy Faculty Practice - (323) 442-3340 or otfp@med.usc.edu
chan.usc.edu/otfp
Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.